FACT SHEET - JULY 1999

Educating Washington residents, about exposures to toxic chemicals released into the environment, for a healthier tomorrow.

Environmental Health

West Plains Neighborhood Drinking Water Wells, Spokane

HEALTH CONSULTATION FINDINGS

Introduction

At a public meeting held in January 1997, West Plains Neighborhood residents expressed concerns about potential contamination of drinking water wells near the Graham Road Recycling and Disposal Facility. The State Department of Ecology and the Spokane Regional Health District sampled private wells in October 1998 and March 1999.

The State Department of Health (DOH) was then asked to conduct an evaluation of the sampling results to determine if residents were being exposed to harmful contaminants in private wells.

The evaluation findings are presented in a Health Consultation document. This fact sheet summarizes the Health Consultation and DOH's recommendations for protecting public health.

Well Sampling Results & Conclusions

Three contaminants: **nitrate**, **carbon tetrachloride**, and **trichloroethylene** were detected in private wells at levels that exceeded health-based comparison values and maximum contaminant levels (MCLs) for cancer and non-cancer health effects.

Health-based comparison values are health safety standards, established by federal health agencies, used to determine if a public health hazard might exist.

Maximum contaminant levels are standards used for public drinking water systems.

NITRATE

Nitrate occurs naturally in the environment. Sources of nitrate could include: fertilizers, animal manure, and failing septic systems. Nitrate was found at various levels in all the wells sampled. Exposure to the nitrate found in these private wells occurs through ingestion.

NON-CANCER HEALTH EFFECTS

Nitrate is not a cancer-causing compound. However, the level of nitrate found in Well 6 does create a potential public health hazard for:

- infants under the age of one,
- a pregnant woman's developing fetus,
- persons with reduced gastric acidity, and
- individuals who are at high risk for methemoglobinemia, a decrease in the blood's ability to carry oxygen to tissues throughout the body.

If Well 6 is also contaminated with bacteria, the effects caused by nitrate exposure may be even greater.

Residents drinking water from Well 5 should also take measures to protect their health. The level of nitrate found in this well slightly exceeds the maximum contaminant level.

CARBON TETRACHLORIDE

Carbon tetrachloride does not occur naturally in the environment. It is usually used as a refrigerant, aerosol propellant, or cleaning fluid. Carbon tetrachloride was found in Wells 3 and 11. Exposure to carbon tetrachloride occurs through ingestion, breathing the vapors, and absorption through the skin during

normal water usage such as: bathing, cooking, and dish washing.

CANCER HEALTH EFFECTS

The increased risk of cancer due to chronic exposure to the levels of carbon tetrachloride found in Wells 3 and 11 is very low.

> *A very low cancer risk is defined as about one additional cancer in a population of 100,000 persons exposed for a lifetime.*

NON-CANCER HEALTH EFFECTS

Non-cancer health effects are not expected to result from exposure to the levels of carbon tetrachloride found in Wells 3 and 11.

TRICHLOROETHYLENE

Trichloroethylene does not occur naturally in the environment. It is usually used as a solvent for cleaning metals, or in adhesives, and paint and spot removers. Trichloroethylene was found in Well 11. Exposure to trichloroethylene occurs through ingestion, breathing the vapors and absorption through the skin during normal water usage such as: bathing, cooking, and dish washing.

CANCER HEALTH EFFECTS

The increased risk of cancer due to chronic exposure to the levels of trichloroethylene found in Well 11 is very low.

NON-CANCER HEALTH EFFECTS

A public health hazard exists for a pregnant woman's fetus exposed to the level of trichloroethylene found in Well 11.

Recommendations

1. Drinking water Wells 5 and 6, where the nitrate levels exceed the maximum contaminant level of 10 parts per million (ppm), should not be used for human consumption by persons at risk. (*See the list on the previous page under Nitrate.*) These wells should be monitored quarterly.
2. Drinking water Wells 3, 4, 7, 8, 10, and 11 that were found to have levels of nitrate exceeding 5 ppm, should be monitored quarterly.
3. Residents using drinking water Wells 3 and 11 should use bottled water, ventilate well, and reduce normal water usage until the levels of carbon tetrachloride and trichloroethylene no longer exceed the MCL. These wells should be monitored quarterly.
4. The source of carbon tetrachloride (Wells 3 and 11) and trichloroethylene contamination (Well 11) should be identified to eliminate additional and future exposures.

Future Actions

DOH is working with the Spokane Regional Health District to ensure that affected residents understand the impact this contamination has on their health. DOH is also working with the Health District to make sure that well monitoring is continued.

For Additional Information Call:

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